

REMARKS

This preliminary amendment is submitted in response to the Final Office Action mailed February 28, 2003, and a Personal Interview of May 8, 2003, to request reconsideration of the rejection of claims 1, 4-8, 12-27, 29-32, 35-39, and 41 as set forth therein.

Initially, the undersigned would like to thank the Examiner for the courtesy and assistance extended on behalf of the Applicants during the personal interview conducted on May 8, 2003, with the undersigned and Applicant, Dr. Farshad Khorrami.

In the Final Official Action, the Examiner objected to the Drawings under 37 C.F.R. § 1.83(a) because the drawings do not show every feature of the invention specified in the claims.

Firstly, the Examiner argues that the Drawings do not show the scissor sub-linkages in combination with the parallelogram linkages as recited in claims 1 and 8 and 27 and 31. In response, claims 8 and 31 have been amended to clarify that at least one of the at least two parallelogram linkages recited in claims 1 and 27 can be a scissor linkage. As is apparent to those of ordinary skill in the art from a reading of the specification including the Drawings, the scissor linkages are a subset of parallelogram linkages. For example, page 40, lines 16-24, refers to the scissor linkages of Figures 8a and 8b as parallelogram linkages. Therefore, no new matter has been introduced into the disclosure by way of the present amendment to claim 8 and 31.

Secondly, the Examiner argues that the Drawings do not show the limitation of the tubular cavity of the tubular element being coiled within the space in a helical manner as recited in claim 39. Applicants respectfully disagree and submit that those of ordinary skill in

the art would understand Figure 6a as showing such features, particularly in light of the specification and Figures 6a and 6b. The specification at page 34, lines 6-24, describe Figure 6a as showing a sectional view of a cylindrical housing 340 and the tubular elastomeric element being placed in the cavity of the cylindrical housing and wound like a rope in a helical manner to fill the entire cavity. Furthermore, Figure 6b is described as showing a sectional view of one such tubular elastomeric element. Thus, from the specification and Figures 6a and 6b, it is clear to those of ordinary skill in the art that the tubular elastomeric element is shown coiled in a helical manner in Figure 6a.

In the Final Official Action, the Examiner objected to the disclosure because of the following informalities.

Firstly, the Examiner argues that reference numeral 152 is used to denote both a "deadband" and "gain" on page 48. In response, the specification has been amended to consistently refer to each occurrence of "gain" with reference numeral 154 as shown in Figure 12.

Secondly, the Examiner argues that the support means is described as an array of elastomeric structures that buckle on lines 9-10 from the bottom of page 8 and as an array of tubular elements in lines 4-6. The Examiner further argues that such a description leads to confusion in claim 39 that recites both a support means and a deformable member. In response, Applicants respectfully submit that the elastomeric structures and tubular elements are two embodiments of the support means. Claim 39 has been amended to clarify that the support means comprises the deformable member to be consistent with the description in the specification.

In the Final Official Action, the Examiner objected to claims 1-4-26, 39, 41, 46, 47, and 49 because the last three lines of claim 1 are not clear. In response claim 1 has been amended to clarify the last three lines of claim 1. Specifically, the last three lines of claim 1 have been restored to its previous form.

In the Final Official Action, the Examiner rejected claims 4, 5, and 30 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner argues that the first and second parallelogram sub-linkages recited in lines 1-2 of claims 4 and 30 are indefinite. The Examiner further argues that it is unclear if Applicant is referring to the first and second sub-linkages of one or each of the at least two parallelogram linkages. In response, claims 4 and 30 have been amended to clarify that at least one of the first and second parallelogram sub-linkages are being referred to.

In the Final Official Action, the Examiner rejected claims 1-4, 7, 12, 13, 19, 27, 29, 35, 36, and 38 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,732,802 to Tsukagoshi (hereinafter "Tsukagoshi"). Additionally, the Examiner rejects claims 1, 4, 5, 8, 12, 13, 27, 29-32, and 35-38 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,068,825 to Macpherson (hereinafter "Macpherson"). Further, the Examiner rejects claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Tsukagoshi in view of U.S. Patent No. 5,052,529 to Sutcliffe et al. (hereinafter "Sutcliffe"). Still further, the Examiner rejects claims 14-16 under 35 U.S.C. § 103(a) as being unpatentable over Tsukagoshi in view of U.S. Patent No. 3,191,896 to Nathan (hereinafter "Nathan"). Still further, the Examiner rejects claims 20-23 under 35 U.S.C. § 103(a) as being unpatentable over Tsukagoshi in view of U.S. Patent No. 5,127,622 to Whelpley et al. (hereinafter

"Whelpley"). Still further, the Examiner rejects claim 24 under 35 U.S.C. § 103(a) as being unpatentable over Tsukagoshi and Whelpley and further in view of U.S. Patent No. 4,887,699 to Ivers et al. (hereinafter "Ivers"). Still further, the Examiner rejects claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Tsukagoshi in view of Prior Art Figure 19. Lastly, the Examiner rejects claims 39 and 41 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,389,900 to Leist et al., (hereinafter "Leist") in view of U.S. Patent No. 3,834,257 to Ganser (hereinafter "Ganser").

With regard to independent claims 1, 27, and 36, the same have been amended to recite that the motion constraint means comprises at least first and second parallelogram linkages, each having first and second parallelogram sub-linkages, where one of the first or second parallelogram sub-linkages is only fixed to the payload or a portion thereof, and the other of the first or second parallelogram sub-linkages is only fixed to the base structure or a portion thereof.

Turning now to the prior art, Tsukagoshi shows a motion constraining mechanism where the payload is kept parallel to the base. However, such is done at the expense of forcing the payload to shift laterally. That is, as the payload moves up or down relative to the base, the motion constraining mechanism forces the payload to move laterally a predetermined amount that is dictated by the geometry and instantaneous position of the linkages. That is, the motion constraining mechanism does not allow independent vertical and lateral motions of the payload relative to the base, since single parallelograms are used to connect the payload to the base. That is, the motion constraining of Tsukagoshi has only one degree-of-freedom. More importantly, one cannot put two of these single parallelograms together in a non-coplanar manner to obtain an isolation platform, which would allow axial

motion and lateral motions in two perpendicular planes, i.e., to allow full spatial translation (e.g., in X, Y and Z directions of a Cartesian coordinate system). In fact by doing so, the one degree-of-freedom of the payload is reduced to zero and the mechanism becomes a structure.

Furthermore and fundamentally, the motion constraining mechanism of this invention CANNOT be used to isolate payload from vibration since it cannot provide for independent vertical and lateral (in two independent directions) motions. The mechanism of Tsukagoshi also cannot be used to isolate a payload from a base because link 22 (as shown in Figure 12) will always transmit a component of the load from the payload to the base. In the case where the link 22 is vertical, the entire load of the payload will be transmitted to the base.

In any event, Applicants reiterate that Tsukagoshi does not teach or suggest the use of two or more parallelograms between a base and payload, where each of the parallelograms comprises two parallelogram sub-linkages to isolate a payload from a base structure, as is now recited in independent claims, 1, 27, and 36. On page 11 of the Final Official Action, the Examiner presents a Figure from Tsukagoshi with an overlay of what she considers the first and second parallelogram linkages, which have first and second parallelogram sub-linkages. During the Personal Interview, the Examiner argued that members 2(2a) and 2(2b) are the base and payload and that the parallelogram sub-linkages are attached to the base and the payload. In fact, the parallelogram sub-linkages are connected to both the base and payload.

Although Applicants feel that what the Examiner considers first and second parallelogram linkages is a single linkage that are constrained to move together, and that such a linkage cannot serve to isolate the payload from the base, in the interests of advancing

prosecution, Applicants have nonetheless amended independent claims 1, 27, and 36 to clarify that one of the parallelogram sub-linkages for each of the parallelogram linkages is attached to only the base (or portion thereof) and the other of the parallelogram sub-linkages for the same parallelogram linkage is attached to only the payload (or portion thereof).

As also discussed previously, component 11 of Macpherson is not a support means and does not provide a vertical or lateral support to suppress transmission or a vertical or lateral vibrations. Macpherson merely shows a jack that has no degrees of freedom. If the jack of Macpherson is pushed laterally or vertically, it will not move. In any event, Macpherson also does not teach or suggest the features discussed immediately above, as is now recited in independent claims, 1, 27, and 36.

With regard to independent claim 39, the Examiner argues that Ganser discloses an elastomer extruded tubular element coiled in a helical manner as is recited in claim 39 and that it would have been obvious to combine such with Leist. Applicants respectfully disagree with the Examiner's analysis regarding the combination of Leist and Ganser.

The device of Ganser is a radially expandable mandrel for holding a tubular element disposed over the mandrel when the mandrel is expanded. Ganser does not teach or suggest the use of the mandrel to either isolate or support a payload relative to a base. Therefore, there is absolutely no motivation or suggestion to use the mandrel of Ganser with the device of Leist. Applicants respectfully submit that absent such motivation or suggestion, the combination of Leist and Ganser under 35 U.S.C. § 103(a) against claim 39 is improper.

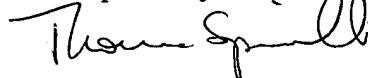
Applicants further submit that Ganser is from a non-analogous art since it is neither directed to the same field of the invention nor reasonably pertinent to the particular

problem with which the inventor of the present invention was involved (See, *e.g.*, *In re Clay*, 966 F.2d 656, 23 USPQ 2d 1058 (Fed. Cir. 1992); *In re Paulsen*, 30 F.3d 1475, 31 USPQ 2d 1671 (Fed. Cir. 1994); and *Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ 2d 1767 (Fed. Cir. 1993).

In view of the above, Applicants respectfully submit that independent claims 1, 27, and 36, as amended, patentably distinguish over the cited references and are allowable. Claim 39 also patentably distinguishes over the prior art and is allowable. The remaining claims are at least allowable therewith as depending from an allowable base claim.

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,



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